GEOGRAPHIC NEWS BULLETINS

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NOTE TO TEACHERS: The next issue of the Geographic News Bulletins will be published upon the reopening of schools in October. The Bulletins are not issued during the summer vacation months. It will facilitate the handling and prompt mailing of the Bulletins in the fall if teachers will apply now for the Bulletins they need for next year. See application form following Bulletin No. 2.

Photograph by Dr. H. D. Girdwood, © Realistic Travels

A SWIMMER CANNOT SINK IN THE DEAD SEA
(See Bulletin No. 2)

HOW TEACHERS MAY OBTAIN THE BULLETINS

The Geographic News Bulletins are published weekly throughout the school year (thirty issues) and will be mailed to teachers for one year upon receipt of 25 cents (in stamps or money order). Entered as second-class matter, January 27, 1922, at the Post Office at Washington, D. C., under the Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in section 1103, Act of October 3, 1917, authorized February 9, 1922.

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Foochow, Tea Port of China

FOOCHOW will take notice of England's withdrawal of the tax on tea.

The Chinese port has been making a "come back" in the tea trade, regaining some of the wealthy traffic in the leaf which it lost to Ceylon and India. Abandonment of the British levy, the same levy which figured so importantly in the American revolution, may help Foochow's trade.

Foochow Scents Tea Leaves with Jasmine, Rose and Chrysanthemum

Sweet-smelling tea is Foochow's specialty. Pleasant to the traveler are the tea factories and warehouses where tea leaves, scented with jasmine, roses and chrysanthemums, are sorted from dawn to dusk by Chinese women and children. One recent year Foochow exported more than 7,000,000 pounds of Fukien tea and re-exported an additional 5,000,000 pounds which were shipped to Foochow "tea perfumeries." There are more than forty tea factories in the city.

Foochow's port is really in its suburbs. The nearest gate in the 5-mile wall that surrounds the city is 3 miles from the north bank of the Min.

To reach Foochow one must go by boat, for there are no railways or good roads in this region. Ocean-going vessels from Shanghai and Hongkong enter the Min opposite the north end of Formosa and steam up the river for 25 miles to Pagoda Anchorage. From there passengers are transported by steam launch through a maze of matting-covered sampans and high-pooped junks to the Foochow piers 9 miles farther upstream. The remainder of the journey to the walled city may be made by bus, jinrikisha or sedan chair.

A Street That Nearly Ties Itself in Knots

Within the wall, a few modern school, government and business buildings have been erected in recent years, and a few of the main streets leading from the city gates have been widened, but a step into one of the side streets is a step back several centuries in Foochow history.

An example of early Chinese city planning can be visualized by drawing a diagram of a certain street in Foochow's east side. It runs from one of the main streets eastward, then northward, eastward, northward, eastward, northward, eastward, southward, westward, southward, southeastward, southward, westward, southward, eastward and southward.

The whole course of this thoroughfare is not more than two or three blocks long and nowhere is it wide enough for even a jinrikisha to pass without driving playing children, and their playmates—pigs and dogs—into bordering doorways. The sedan chair is used by most travelers to penetrate these passageways where the odors permeating the atmosphere are so overwhelming to foreign nostrils that the chair-bearers are urged on to the nearest breathing space.

Foochow's Tea Output Once Reached 100,000,000 Pounds

The open shops along the Foochow streets reveal thousands of natives eking out an existence in various other industries. Before one's eyes clever artisans make wooden pillows and images of gods and odd-looking beasts; cabinet makers turn out fancy furniture; potters shape and fire handsome vessels; brickmakers fashion their products in all shapes, sizes and colors; both men and women sit silently em-

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FEMALE TURTLES MOVING TO THE SEA ACROSS AN AUSTRALIAN TIDAL FLAT

The *Southern Cross*, the airplane which flew across the Pacific, came down on a broad mud flat of a river, near the wild, sparsely populated coast of northwest Australia. Unfortunately there were no turtles so far inland and the crew very nearly starved before aid reached them (See Bulletin No. 4).

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Palestine Finds Dead Sea and Jordan River Valuable Resources

THE lower Jordan River valley and the Dead Sea, long thought of as the symbol of desolation, now promise to be one of the most valuable resources of Palestine.

Scientists have estimated the value of potash deposited on the shores of the Dead Sea in tens of millions of dollars. Not far from the north end of the Sea, where the river comes in, a dam is being thrown across the Jordan. This $300,000 electric power project will supply 24,000 horsepower to Jerusalem and the countryside of Palestine.

The Dead Sea creates a scene of wild beauty in its deep valley 1,300 feet below the level of the neighboring Mediterranean. Six million tons of water flow into this salt lake each day from the River Jordan and other tributaries, yet not a gallon flows out, the level of the water being maintained by evaporation.

A Fresh Egg Will Float upon the Surface

So hot is the surrounding air and so rapid the consequent vaporization of Dead Sea water that a constant haze hangs over the brilliant blue surface of the lake and over the rock-ribbed hills that shut it in. The water is five times as salt as the ocean. A fresh egg will float upon its surface and pilgrims who bathe here cannot sink. Their feet and heads bob up in spite of every effort to swim but fish of the Jordan River die quickly if they venture to swim in the Dead Sea water. No sea birds fly over these waves in which fish cannot live; no vegetation thrives upon the salt-incrusted shores. From this lack of life the Greeks derived their name for the Dead Sea.

Arabs of the region call it the Sea of Lot. Here in ancient times were located Sodom and Gomorrah of sulphurous memory. Large deposits of sulphur are still to be found; also a salt pillar licked by generations of camels and, according to unabashed guides, the remains of Mrs. Lot.

Why the Lake Has Shrunk from Former Size

Although the lake at present is roughly fifty miles by ten in extent, many scientists think that it was in ancient times 200 miles long and on a level with the Mediterranean. Geologic and climatic changes have reduced it to its present state. It is thought that at the time of Abraham and Lot rich cities buried in groves of dates and fruits flourished in the valley. Even Herod in the days of Christ maintained a luxurious winter palace at Jericho, now a wretched collection of huts.

Religious pilgrims of the Crusading middle ages were apparently oblivious to the scenic grandeur of the Dead Sea. Their accounts describe a lurid lake surmounted by poisonous vapors, no doubt the evaporation haze. Modern interest in the region was awakened about a hundred years ago when the first serious exploration projects were undertaken. Turkish rule was not favorable to scientific investigations. Only since the World War have serious efforts been under way to commercialize the mineral wealth of Dead Sea water and the water power of the Jordan.

Bulletin No. 2, May 13, 1929.

broidering, and dyers, with inky hands, seemingly turn old garments into new of a different color.

One of the most interesting of these industrial displays is the making of lovely vases, toys, tables and numerous other articles in the lacquer shops. Foochow lacquer ware is almost as well known as its tea. An American boy would, perhaps, spend most of his time peering into the fireworks shops where workmen manufacture the "noise" for street processions, funerals, weddings and other Chinese celebrations. Trade with twenty-seven cities and many small villages reached by river boats accounts for much of Foochow's commercial activity.

It was not until 1861, when the Min was opened to foreign shipping, that the city's "suburbs" spread out along both banks and beckoned to world trade. Since then Foochow's annual output of tea alone once reached nearly 100,000,000 pounds and it bids fair to repeat the record.

Bulletin No. 1, May 13, 1929.

© *Photograph from Farran Zerbe*

THIS "BANK NOTE" IS MADE FROM TEA

In Siberia, Tibet, and Mongolia one finds "brick-tea money" in use. Tea merchants sweep up tea dust and scraps of leaves from the warehouse floor and press the refuse into inscribed bricks. This specimen, slightly enlarged, shows one of the four segments of a brick which is so made as to be easily divided for making "change."

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The Swift Rise of Subway Travel

SANTIAGO, capital of Chile, has decided to join the select company of the subway cities of the world.

The letting of the contract for a "tube" running thirty blocks under Avenida de las Delicias serves to recall the brief period during which the present extensive underground railway systems in great cities have been developed.

It seems strange that man, who deserted his caves scores of thousands of years ago and who has been busy since subduing the earth's surface and even invading its air, should turn back and begin burrowing beneath ground. It seems strangest of all that he should delve below the surface for rapid mass *travel,* a thing that he probably never dreamed of in his most imaginative moments until perhaps a century ago.

How Cities Came to Build Subways

Underground rapid transit is linked with the tremendous growth of certain cities. It was only where population increased to such an extent that surface streets became choked with myriads of people seeking to move about that the idea of travel beneath the surface could ever seem desirable. And it was only after the invention of the railway that the idea became feasible.

Just as the cross-country railway developed from the stagecoach, so the highly organized and heavily capitalized subway systems of to-day grew from the omnibus, the stagecoach of the city. In New York, a city stage line was started in 1830 to operate north on Broadway from Bowling Green; and within two years the world's first street railway—its cars drawn by horses—was born in the same city. It was a line along Fourth Avenue from near the present site of City Hall to near the present location of Grand Central Station. The idea spread in the United States but Europe was slow to follow. Paris established a horse-car line in 1856; but it was not until 1861 that London had its first "passenger tram."

Londoners did not take kindly to street railways; they objected to the rails which interfered with other traffic. It was because of this feeling that railways in cities should be out of the way that the first steps were taken in London toward underground rapid transit. The earliest line, constructed before 1870, was not all underground. Much of it was in open cut, and only part in tunnels. The trains were operated by steam engines, and the tunnels were so smoky and ill ventilated that the system was not a success.

Elevated Tracks Proved Best While Steam Was Motive Power

In the meantime New York, faced with a growing congestion of street traffic and a lengthening city, was experimenting with a new solution, the elevated railroad. The first was built in 1868 and by 1878 there were four elevated structures on which steam trains were operated. Placing fast moving city trains above the street level proved the best solution while steam was the only motive power, and the system was adopted in Chicago, Berlin and Liverpool.

London, then the world's greatest city, continued to look underground for the solution of the rapid transit problem. After cable cars first came into use in San Francisco in 1873 and spread to other cities, the idea was conceived of operating cable cars in tunnels in London. In 1886 the world's first all-tunnel subway was started in London; by the time it was completed in 1890 the electric locomotive had been perfected and the new underground railway was put into operation with this newest draft agency.

Photograph by Dr. H. D. Girdwood, © Realistic Travels

RUSSIAN PRIESTS BLESSING THE RIVER JORDAN

Each year thousands of pilgrims from Russia journey to Jerusalem for the religious ceremonies. Each tries to carry back with him a bottle of water from the Jordan, a bit of palm leaf, or a candle from the Holy Fire ceremony at Jerusalem.

NOTE TO TEACHERS

The attached blank may be used in ordering Bulletins for the coming year:

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National Geographic Society,
Washington, D. C.

Kindly send.....copies of the GEOGRAPHIC NEWS BULLETINS for the school year of 1929–30, for classroom use, to

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Australia's Wild Northwest, Where an Airplane Crew Faced Starvation

THE crew of the *Southern Cross* faced starvation on an Australian mud-flat. The German transatlantic flyers were isolated on Greenly Island. Wilkins and Eielson came down on solitary Deadman's Island.

The experiences of aviators reveal that civilization is not yet in touch with many places on this earth.

When the *Southern Cross* dropped down in northwestern Australia the crew found themselves lost in one of the largest areas of wild country in the world.

Natives Collect Trochus Shell for Pearl Buttons

The region where the mishap occurred has been described by M. P. Greenwood Adams in a communication to the National Geographic Society as follows:

"Fifty-odd years ago there was not a single European settlement in this vast section of Australia, and even now the census returns give a population of less than 7,000 souls, exclusive of aborigines.

"The fisheries wealth of this coast is remarkable, every inlet and river teeming with valuable edible fish. At Broome, a system of catching fish by means of traps is in vogue. The traps are made of wire netting, with wings which form a race. The tide does the work. The traps are covered at high tide, and when the water rushes out, fish are swept into the wire, being caught by the ton.

"At the entrance to King Sound, there is a group of islands known as the Buccaneer Archipelago. On Sunday Island, one of this group, Sydney Hadley has a mission station, where he utilizes the black *gins* (women) for collecting the trochus shell, which he ships away. It is from the trochus shell that so-called pearl buttons are made—an industry carried on in France and Japan.

Dugong Meat Serves as Bacon

"Western Australia produces more than three-fourths of the world's pearl shell, and the principal center of this valuable industry is Broome, a straggling township of some 4,000 Asiatics and a few hundred whites, each group occupying its own section of the town.

"The dugong is caught like the whale, but, owing to the great thickness of its hide, many spears are turned and broken; so the hunting is not always carried out with success. This mammal is believed by some to have suggested the idea of the mermaid, because it holds its young to its breast and suckles it. The flesh has a flavor akin to both beef and pork, and it is eaten by whites and blacks alike. The meat is used like bacon and fine leather is made from the hide. Oil obtained from the animal possesses valuable medicinal qualities.

"Montgomery Island is one of several small bits of land dotted among the dangerous coral reefs which strew the coast for miles north of Butcher Inlet. One reef has an area of 20 square miles and is completely covered at high tide, but when the turn comes the sea rushes from the reef like a waterfall, eventually leaving it high and dry.

"Some excellent pioneer work is being accomplished at Port George Mission by Messrs. Wilson and Paton, who, with their wives, have produced a veritable Garden of Eden, with tropical fruits, flowers, and vegetables. They have many goats and fowls. The surrounding country is well grassed and fed by fresh running streams.

Glasgow, Scotland, and Berlin, Germany, opened subway railroads about the same time. Budapest, Hungary, was next to join the ranks of subway cities. Boston was the first American city to begin work on a subway. It was opened in 1898. In 1900 the Paris "Metro" began its underground career, and in the same year New York started work on its first underground railway. The first train rolled through the New York subway in 1904, and the work of extending the system has been almost continually under way. Philadelphia first joined the cities having underground rapid transit systems in 1908. Since then the roster has been added to only by Madrid, Buenos Aires, and Tokyo. The subways in Madrid and Buenos Aires are only a few miles in length, but the Tokyo system is fairly extensive.

New York and London Systems Differ in Depth Below Ground

The fact that heavy population is essential to the success of subways is demonstrated by a glance at the roster of "subway cities." Of the world's ten greatest cities, all except Chicago, Osaka, and Moscow have subways, and in the missing three the construction of underground railways is being given serious consideration. Of the four smaller cities having subways, Budapest, Glasgow, Madrid, and Boston, the two first named have more than a million population; while the recorded population of Boston, applying to a restricted area, does not indicate the magnitude of the crowds dependent on the city's rapid transit facilities. The Madrid underground system is of limited extent.

Of the sub-surface city railway systems, those of New York and London, the two cities which vie for the title of world metropolis, far surpass all others in extent. Yet in plan and operation these two great metropolitan systems are in some ways strikingly different. London was the pioneer and some of her early construction was found later to lead to marked inconvenience and expense. Thus her earliest "tube" tunnels were constructed at great depths, making it necessary to supply batteries of elevators and escalators at the stations. New York took up subway construction late, but profited by the experiments of those earlier in the field. She adopted the Budapest plan of placing the tunnels as close as possible to the surface so that elevators would be unnecessary.

Another radical departure from the older methods, adopted in New York, was characteristically American. This was the building of two subways in one, by the provision of four tracks, two devoted to express trains and two to local service.

Subway Means Something Else in London

In London the sub-surface railway system is known as "the Underground"—the word "subway" is applied only to pipe tunnels, footpaths, under-street crossings, and the like. Some details making for the convenience and comfort of passengers stand out in the operation of the Underground. Stations are more ornamental than most of those in New York; and in some, as in the newest Piccadilly Station, striking mural paintings adorn the walls. The Piccadilly Station is virtually an underground square, brilliantly lighted, surrounding which are well-appointed shops.

The best feature of the Underground to a stranger in London, however, is the remarkably sensible method of keeping him informed of his whereabouts. It is not necessary to peer out at stations seeking to make out dim numbers or names on posts and walls. Suspended from the ceiling in the middle of each car is a large-scale map of the system with a tiny electric bulb at each station. When the train approaches a station the bulb for that station flashes on, and remains lighted until the train starts again. Lights more conspicuous than the ordinary ones flash on at the transfer points calling the passengers' attention to those important centers.

New York has more than 300 miles of subway track and this will be materially increased when the new independent subway system is placed in commission. In both London and Paris the underground trackage is close to 200 miles. In Chicago the construction of a passenger subway has been discussed for many years but at present only surface and elevated lines are in use. Chicago has a possible nucleus for a subway system in its almost unique freight tunnel system. Under the streets of the business section of the city exists a gridiron of 50 miles of tunnel, six feet wide and seven and a half feet deep. The tracks are only two feet wide.

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Spend Nearly $1,000,000 to Bring Boer Colony Back to British Territory

THIRTY years ago Boers trekked north to evade the advancing British forces. Now the colony of Boers that went with their oxen and lumbering covered wagons into Portuguese Angola has doubled back into South West Africa. They have given their loyalty to the monarch whom they defied at the outbreak of the Boer War.

The administrator of South West Africa, which is now controlled as a mandate by the Union of South Africa, has announced that nearly all of the million dollar fund appropriated to pay for the return trek had been expended. The government financed the migration and the settlement of the colonists on new farms in the uplands.

Where It Takes Many Acres to Keep a Cow in Grass

Eighteen hundred men, women and children, with 340 wagons, and 1,500 oxen and other domestic cattle, made the march, it is reported. They traveled 800 to 1,500 miles to new homes. Sixteen hundred acres was set aside for each Boer family coming to South West Africa.

The regal generosity of the government's gift of land is tempered by the geography of the mandate territory. Where it takes a good many acres to keep one cow in grass, as it does in arid South West Africa, 1,600 acres is not such a large farm. The acreage offered to the Boers is in the vicinity of the villages of Grootfontein, Gibeon and Gobabis, all of which lie in the uplands. Their coming will by no means crowd the protectorate in which live only 24,000 white people, scattered over an area one-third the size of the United States east of the Mississippi.

Like Eastern United States, South West Africa has a coastal plain between ocean shore and highlands. Unlike the eastern plain in the United States, the African plain is a sandy desert, wind-blown, dune-furrowed, 800 miles long. However, sufficient rain falls in the uplands to permit grazing. Yet there is not a forest in the whole 300,000 square miles.

How the Hottentots Got Their Name

About 250,000 natives live in South West Africa. Of the tribes only the Hottentots have a reputation that goes far beyond the borders. White men listened to them talk. Their click language rattled along like conversation in any zoo monkey cage and the first explorers said it sounded something like hot-ten-tot. So Hottentots they became.

Diamonds are South West Africa's staple product although the uplands support 600,000 cattle and some sheep. There are a few copper mines. But diamonds in the gravel deposits on the desert coast provide the chief income for citizens and for the government. A long search has been kept up for the mother lode containing the gems. A recent discovery may have disclosed the source of gems on the diamond coast.

Site of American Solar Observatory

South West Africa is the site of the solar radiation station maintained by the National Geographic Society in cooperation with the Smithsonian Institution. Because South Africa's weather is nearly all one kind and that sunny and clear, Mt.

Wyndham is Port for Extensive Cattle Region

"The blacks in this section are reputed to be a quarrelsome lot but the quarrels are tribal affairs and the mission residents have never been molested. These aborigines carry a distinct strain of Malay blood, which is the case with many tribes on the northern coast of Australia, as Malays have frequented the northern seaboard for centuries in search of pearl shell and sea slugs (trepang), which find a ready sale in markets of the Far East.

"Sea snakes are frequently seen curled up asleep on the surface of the water. These reptiles are poisonous and grow to about 12 feet in length.

"At the head of the gulf lies Wyndham, the port for the great cattle country of the hinterland. From Wyndham the cattle stations (ranches) are served by camel trains, which carry supplies for hundreds of miles into the interior. The camels are driven by Afghans. Camel teams are familiar sights in the streets of the little township, hauling in great wagonloads of firewood from the outlying district."

Bulletin No. 4, May 13, 1929.

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TWO NATIVES OF NORTHWESTERN AUSTRALIA WITH A 400-POUND STINGRAY

These giant blacks, both nearly 7 feet tall, speared the monster in the shallow waters of the northwest coast of Australia. The poisonous stinger, which is actually an extension of the spine, projects about two feet from the thick part of the tail, and this is used as a means of offense and defense. Stingrays up to 600 pounds have been caught on this coast.

Brukkaros, a lonely pinnacle rising out of the Fish River Valley, was selected as a solar observation post. Records of minute variations in heat radiated by the sun are cabled to Washington from this desolate country. Combined with observations from Chile and California, the figures obtained may supply the secret of long-range weather forecasts. Scientists are testing the theory over a period of years.

Bulletin No. 5, May 13, 1929.

A NOTEWORTHY CONTRIBUTION TO TEACHING

Requests are being made daily for back copies of the NATIONAL GEOGRAPHIC MAGAZINE for use in schools. Many educators have urged that earlier copies of THE GEOGRAPHIC be made available for teaching and reference. Illustrations, articles and maps make each issue of THE GEOGRAPHIC of permanent value for classrooms and school libraries.

The Society has collected, with the co-operation of its membership, a limited number of copies of special value to schools, which will be delivered to schools upon requisition of the superintendent or principal. It is desired that these sets be allotted to schools in rural areas or smaller towns, where library facilities are limited.

The recipient need pay only the cost of handling and carriage, which amounts to 50 cents for each packet of ten copies of THE GEOGRAPHIC.

Because these packages must be assembled from a wide assortment of earlier copies, many of the numbers available being limited, it will not be possible to specify which issues the packets contain. Each of the ten copies will be a different issue. Thus each packet is a panorama of world geography, including also Nature subjects, exploration narratives, and popular science—in other words a geography library of some 35 authoritative articles with more than 1,000 illustrations, many in color.

You will recognize the value of this gift, arranged as a phase of the educational work of The Society, when it is considered that all back copies available at The Society's headquarters for membership demands are priced at 50 cents each; 75 cents if earlier than 1912. Many out-of-print issues command much higher sums from rare-book dealers.

To minimize bookkeeping, remittance of 50 cents for each packet must accompany the order; and teachers must indicate plainly their school and teaching position because these copies *are made available only for schools.*

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(Signed).....

Additional copies of this blank, for distribution among principals and teachers, may be had upon request.